ONCOLOGY REFERENCE GUIDE to Oral Health

Prevention and management of oral complications

- Head and Neck Radiation Therapy
- Chemotherapy
- Blood and Marrow Transplantation

Oral Health, Cancer Care, and You
Fitting the Pieces Together

◆ Radiation Therapy

Patients receiving radiation therapy to the head and neck are at high risk for developing oral complications. Because of the risk of osteonecrosis in irradiated fields, the only opportunity to perform oral surgery may be before radiation treatment begins. Before treatment, the dentist will consider extracting all potentially problem teeth.

Before Head and Neck Radiation Therapy

- Refer the patient to a dentist for a pretreatment oral health examination.
- Tell the dentist the treatment plan and timetable.
- Help prevent tooth demineralization and radiation cavities by making sure the patient has a good oral hygiene program and has received instruction on fluoride gel application.
- Allow at least 14 days of healing for any oral surgical procedures.
- Surgical procedures are contraindicated on irradiated bone, so make sure pre-prosthetic surgery is done before treatment begins.

During Radiation Therapy

- Make sure the patient follows the recommended oral hygiene regimen, whether at home or in the hospital.
- Monitor the patient for trismus: Check for pain or weakness in masticating muscles in the radiation field. Instruct the patient to exercise jaw muscles 3 times a day, opening and closing the mouth as far as possible without pain; repeat 20 times.

After Radiation Therapy

- After mucositis subsides, consult with the oral health team about dentures and other appliances. Patients with friable tissues and xerostomia may never be able to wear them again.
- Make sure that the patient follows up with a dentist for fluoride gel/home care compliance and trismus management. Lifelong, daily applications of fluoride gel are needed for patients who are severely xerostomic.
- Advise against oral surgery on irradiated bone because of the risk of osteonecrosis. Tooth extraction, if unavoidable, should be conservative; use antibiotic coverage and possibly hyperbaric oxygen therapy.
- For pediatric patients, consult the dentist to monitor irradiated craniofacial and dental structures for abnormal growth and development.

PRE-CANCER TREATMENT ORAL HEALTH EXAMINATION

Objectives

1. Establish a schedule for dental treatment.
   - Begin at least 14 days before cancer therapy starts.
   - Postpone elective oral surgical procedures until cancer treatment is completed.
2. Identify and treat sites of low-grade and acute oral infections:
   - Dental decay.
   - Periodontal disease.
   - Endodontic disease.
   - Mucosal lesions.
3. Identify and eliminate sources of oral trauma and irritation such as ill-fitting dentures, orthodontic bands, and other appliances.
4. Educate and train patients in preventive oral hygiene:
   - Brush gently after every meal and at bedtime; floss daily.
   - Use special brushing techniques if the mouth is sore.
   - For xerostomia, drink liquids and suck ice chips or sugarless candy.
   - Rinse with 1/4 teaspoon baking soda and 1/8 teaspoon salt in 1 cup warm water solution, followed by a plain water rinse.
   - Keep dentures clean by soaking them daily in antimicrobial solutions and clean water.
   - Remove prostheses if any irritation, mucositis, or ulceration occurs.
5. Evaluate dentition and loss of primary teeth in children. Remove loose primary teeth as well as those expected to exfoliate during treatment.

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Oral Complications of Cancer Treatment

Oral mucositis/stomatitis: Culture infections to identify fungal, bacterial, or viral origin. Work with the dentist on the best control measures.

Xerostomia/salivary gland dysfunction: Advise the patient to soften or thin foods with liquid, chew sugarless gum, or suck ice chips and sugar-free hard candies. Suggest using commercial saliva substitute or prescribe a saliva stimulant.

Mouth pain: Prescribe topical anesthetics and systemic analgesics. Prescribe antimicrobial agents for known infections. Tell the patient to report oral problems early and to avoid irritating and rough-textured foods.

Damaged tooth enamel: To protect enamel, instruct the patient to rinse teeth with baking soda and water solution after vomiting.

Taste changes: Refer to a dietitian.

Specific to Chemotherapy

Neurotoxicity: Persistent, deep pain mimics a toothache, but with no dental or mucosal source. Provide analgesics or systemic pain relief.

Bleeding from neutropenia: Advise the patient to clean teeth thoroughly with a toothbrush softened in warm water. Instruct the patient to avoid flossing the areas that are bleeding but to keep flossing the other teeth.

Specific to Radiation Therapy

Radiation cavities: Rapid tooth structure breakdown follows radiation therapy, even when the teeth are out of the radiation field. Consult a dentist to prescribe daily fluoride gel applications before treatment begins.

Trismus/tissue fibrosis: Instruct the patient on stretching exercises for the jaw to prevent or reduce the severity of fibrosis.

Osteonecrosis: Advise the patient to avoid oral surgery that involves irradiated bone.

◆ Chemotherapy

The oral complications of chemotherapy depend on the drugs used, the dosages, the degree of dental disease, and adjuvant radiation therapy.

Before Chemotherapy

- Refer patients to a dentist for a pretreatment oral health examination.
- Tell the dentist the treatment plan and timetable.
- If oral surgery is needed, allow 7 to 10 days of healing before the patient begins myelosuppressive therapy.
- In patients with hematologic cancers, check for immunosuppression or thrombocytopenia before any oral procedures.

During Chemotherapy

- Consult with the oral health team to schedule dental treatment.
- Conduct blood work 24 hours before any dental procedure. Postpone if the
  - platelet count is less than 50,000/mm^3, or abnormal clotting factors are present.
  - neutrophil count is less than 1,000/mm^3.
- Before any dental procedures, consider implementing the American Heart Association prophylactic antibiotic regimen in patients with central venous catheters.
- When fever is of unknown origin, consult a dentist to explore a possible oral source of infection.
- Ask patients frequently about their oral health.

After Chemotherapy

- The patient can resume a regular dental recall schedule when chemotherapy is completed and all side effects, including immunosuppression, have resolved.

◆ Blood and Marrow Transplantation

Most blood and marrow transplant patients develop acute oral complications, especially patients with graft-versus-host disease.

Before Transplantation

- Refer all patients to a dentist for a pretreatment oral health examination.
- Schedule oral surgery at least 7 to 10 days before myelosuppressive therapy begins.
- Make sure the patient follows the prescribed oral hygiene regimen and fluoride gel application schedule.
- Watch for infections on the tongue and oral mucosa. Herpes simplex and *Candida albicans* are common oral infections.

After Transplantation

- Make sure that the patient follows up with a dentist for control of plaque, tooth demineralization, dental cavities, and infection.
- Delay elective oral procedures for 1 year.
- Follow patients for long-term oral complications indicating chronic graft-versus-host disease.
- Follow transplant patients carefully for second malignancies in the oral region.

Order additional information and patient education materials from

National Oral Health Information Clearinghouse
ATTN: OCCT
1 NOHIC Way
Bethesda, MD 20892–3500
1–877–216–1019 (Toll-free)
http://www.nohic.nidcr.nih.gov

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